AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1-21. (canceled)

22. (currently amended) A microelectromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the microelectromechanical device ~~capable of moving from a first position to a second position~~ and is formed from an alloy consisting essentially of about ~~1 to 99.9~~ 40 to 80 wt% platinum and about ~~1 to 99~~ 20 to 60 wt% palladium, ~~wherein platinum and palladium are present in an amount sufficient to provide~~ said member exhibiting at least one performance characteristic at least 50% greater than either noble metal alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

23. (currently amended) A microelectromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the microelectromechanical device and is formed from an alloy comprising about 70 wt.% Au and about 30 wt.% Pt, ~~wherein platinum and gold are present in an amount sufficient to provide~~ said member exhibiting at least one performance characteristic at least 50% greater than either noble metal alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

24. (previously presented) A microelectromechanical device, comprising:

at least one freestanding flexible member formed from an alloy comprising about 66 wt.% Au, about 17 wt.% Ni and about 17 wt.% Cr.

25-29. (canceled)

30. (previously presented) A microelectromechanical device including a mirror, comprising:

a freestanding flexible member formed from an alloy comprising one or more noble metals selected from the group consisting of gold, platinum and palladium; and one or more

alloying elements, the elements selected from iridium, ruthenium, rhodium, tungsten, osmium and nickel, wherein the one or more alloying elements form a solid solution with the one or more noble metals having an equilibrium solid solubility of at least 1 wt.% in the noble metal and wherein the one or more alloying elements are present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the noble metal alone;

at least one supporting member for positioning the freestanding flexible member apart from a substrate; and

a mirror positioned on the flexible member and capable a movement when the flexible member is moved.

31-36. (canceled)

37. (currently amended) A micromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the micromechanical device ~~capable of moving from a first position to a second position~~ and is formed from an alloy, where the alloy comprises platinum and alloying elements rhodium and ruthenium, wherein each of the alloying elements have an equilibrium solid solubility of at least 1 wt.% in the platinum, and wherein the alloying elements are present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

38. (canceled)

39. (previously presented) The device of claim 37, wherein the alloy comprises 78.9 to 80.1 wt.% Pt, 14.9 to 15.1 wt.% Rh, and 5.0 to 6.1 wt.% Ru.

40. (currently amended) The device of claim 37, wherein the alloy is selected to provide a tensile strength [[is]] of at least about 1000 MPa.

41. (currently amended) The device of claim 37, wherein the alloy is selected to provide a yield strength [[is]] of at least about 750 MPa.

42. (currently amended) The device of claim 37, wherein the alloy is selected to provide a hardness [[is]] of about 5 GPa.

43. (currently amended) The device of claim 37, wherein the alloy is selected to exhibit[[s]] an electrical conductivity that is at least 10% of the electrical conductivity of the platinum alone.

44. (previously presented) The device of claim 37, wherein the freestanding flexible member comprises an actuator.

45. (previously presented) The device of claim 37, wherein the freestanding flexible member comprises an optical switching device.

46. (previously presented) A micromechanical device, comprising:

at least one freestanding flexible member formed from an alloy, where the alloy comprises platinum and alloying element iridium, wherein the alloying element has an equilibrium solid solubility of at least 1 wt.% in the platinum, and wherein the alloying element is present in an amount that does not result in precipitates.

47. (currently amended) The ~~microelectromechanical~~ device of claim 46, wherein the alloying element is present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

48. (previously presented) The device of claim 46 wherein the alloy comprises about 65 to 99.9 wt.% Pt and about 0.1 to 35 wt.% Ir.

49. (currently amended) The device of claim 47, wherein the alloy is selected to provide a tensile strength [[is]] of at least about 1000 MPa.

50. (currently amended) The device of claim 47, wherein the alloy is selected to provide a yield strength [[is]] of at least about 750 MPa.

51. (currently amended) The device of claim 47, wherein the alloy is selected to provide a hardness [[is]] of about 5 GPa.

52. (currently amended) The device of claim 47, wherein the alloy is selected to exhibit[[s]] an electrical conductivity that is at least 10% of the electrical conductivity of the platinum alone.

53. (previously presented) The device of claim 47, wherein the freestanding flexible member comprises an actuator.

54. (previously presented) The device of claim 47, wherein the freestanding flexible member comprises an optical switching device.

55. (currently amended) A micromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the micromechanical device ~~capable of moving from a first position to a second position~~ and is formed from an alloy, where the alloy comprises platinum and alloying element ruthenium, wherein the alloying element has an equilibrium solid solubility of at least 1 wt.% in the platinum, and wherein the alloying element is present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

56. (canceled)

57. (previously presented) The device of claim 55, wherein the alloy comprises about 80 to 99.9 wt.% Pt and about 0.1 to 20 wt.% Ru.

58. (currently amended) The device of claim 55, wherein the alloy is selected to provide a tensile strength [[is]] of at least about 1000 MPa.

59. (currently amended) The device of claim 55, wherein the alloy is selected to provide a yield strength [[is]] of at least about 750 MPa.

60. (currently amended) The device of claim 55, wherein the alloy is selected to provide a hardness [[is]] of about 5 GPa.

61. (currently amended) The device of claim 55, wherein the alloy is selected to exhibit[[s]] an electrical conductivity that is at least 10% of the electrical conductivity of the platinum alone.

62. (previously presented) The device of claim 55, wherein the freestanding flexible member comprises an actuator.

63. (previously presented) The device of claim 55, wherein the freestanding flexible member comprises an optical switching device.

64. (currently amended) A micromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the micromechanical device ~~capable of moving from a first position to a second position~~ and formed from an alloy, where the alloy comprises platinum and alloying element rhodium, wherein the alloying element has an equilibrium solid solubility of at least 1 wt.% in the platinum, and wherein the alloying element is present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

65. (canceled)

66. (previously presented) The device of claim 64, wherein the alloy comprises about 60 to 99.9 wt.% Pt and about 0.1 to 40 wt.% Rh.

67. (currently amended) The device of claim 64, wherein the alloy is selected to provide a tensile strength [[is]] of at least about 1000 MPa.

68. (currently amended) The device of claim 64, wherein the alloy is selected to provide a yield strength [[is]] of at least about 750 MPa.

69. (currently amended) The device of claim 64, wherein the alloy is selected to provide a hardness [[is]] of about 5 GPa.

70. (currently amended) The device of claim 64, wherein the alloy is selected to exhibit[[s]] an electrical conductivity that is at least 10% of the electrical conductivity of the platinum alone.

71. (previously presented) The device of claim 64, wherein the freestanding flexible member comprises an actuator.

72. (previously presented) The device of claim 64, wherein the freestanding flexible member comprises an optical switching device.

73. (currently amended) A micromechanical device, comprising:

at least one freestanding flexible member that bends, flexes, twists, or is deformed during operation of the micromechanical device ~~capable of moving from a first position to a second position~~ and is formed from an alloy, where the alloy comprises platinum and alloying element nickel, wherein the alloying element has an equilibrium solid solubility of at least 1 wt.% in the platinum, and wherein the alloying element is present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness.

74. (canceled)

75. (previously presented) The device of claim 73, wherein the alloy comprises about 80 to 98 wt.% Pt and 2 to 20 wt.% Ni.

76. (currently amended) The device of claim 73, wherein the alloy is selected to provide a tensile strength [[is]] of at least about 1000 MPa.

77. (currently amended) The device of claim 73, wherein the alloy is selected to provide a yield strength [[is]] of at least about 750 MPa.

78. (currently amended) The device of claim 73, wherein the alloy is selected to provide a hardness [[is]] of about 5 GPa.

79. (currently amended) The device of claim 73, wherein the alloy is selected to exhibit[[s]] an electrical conductivity that is at least 10% of the electrical conductivity of the platinum alone.

80. (previously presented) The device of claim 73, wherein the freestanding flexible member comprises an actuator.

81. (previously presented) The device of claim 73, wherein the freestanding flexible member comprises an optical switching device.

82. (previously presented) The device of claim 46, wherein said at least one freestanding flexible member is capable of moving from a first position to a second position.